

**In the Claims**

1. (original) An electrochemical gas generator, comprising:
  - a substrate;
  - a first electrode deposited on said substrate for providing an electrical connection with a conducting medium;
  - a second electrode deposited on said substrate for generating a gas;
  - said first electrode having a plurality of members extending from at least one side;
  - said second electrode having a plurality of extensions extending from at least one side; and
  - said plurality of members are placed alternately with said plurality of extensions.
2. (original) The electrochemical gas generator according to claim 1, further including an electrolytic material in contact with said first and second electrodes for providing an electrical connection.
3. (original) The electrochemical gas generator according to claim 2, wherein said electrolytic material is in a solid state.
4. (original) The electrochemical gas generator according to claim 3, wherein said electrolytic material is Nafion.
5. (original) The electrochemical gas generator according to claim 3, further including a reservoir for containing a solution to wet said electrolytic material.

6. (original) The electrochemical gas generator according to claim 2, further including a coating deposited on said electrolytic material for regulating an amount of gas generated.
7. (original) The electrochemical gas generator according to claim 6, wherein said coating is a hydrophobic material.
8. (original) The electrochemical gas generator according to claim 6, wherein said coating is porous.
9. (original) The electrochemical gas generator according to claim 3, wherein said electrolytic material is porous.
10. (original) The electrochemical gas generator according to claim 1, further including an inlet for introducing a vapor and an outlet for extracting a gaseous concentration.
11. (original) The electrochemical gas generator according to claim 1, wherein said plurality of members are placed on top of said plurality of extensions in a generally vertical orientation.
12. (original) The electrochemical gas generator according to claim 1, wherein said plurality of members and plurality of extensions are in a generally circular orientation.
13. (original) An electrochemical gas generator, comprising:
  - a substrate;
  - a first electrode deposited on said substrate for providing an electrical connection

with a conducting medium;

a second electrode deposited on said substrate for generating a gas;

said first electrode having a plurality of members extending from at least one side;

said second electrode having a plurality of extensions extending from at least one side;

said plurality of members are placed alternately with said plurality of extensions; and

a coating deposited on a surface of an electrolytic material for regulating an amount of gas generated.

14. (original) The electrochemical gas generator according to claim 13, wherein said coating is a hydrophobic material.

15. (original) The electrochemical gas generator according to claim 13, wherein said coating is Teflon.

16. (original) The electrochemical gas generator according to claim 13, wherein said coating is porous.

17. (original) The electrochemical gas generator according to claim 13, further including an inlet for introducing a vapor and an outlet for extracting a gaseous concentration.

18. (original) The electrochemical gas generator according to claim 13, wherein said first and said second electrodes are interdigitated.

19. (original) The electrochemical gas generator according to claim 18, wherein said plurality of members are spaced apart from said plurality of extensions.
20. (original) The electrochemical gas generator according to claim 13, wherein said electrolyte is in a solid state.
21. (original) The electrochemical gas generator according to claim 13, further including a reservoir for containing a solution to wet said electrolytic material.
22. (original) The electrochemical gas generator according to claim 13, wherein said electrolytic material is Nafion.
23. (currently amended) An electrochemical gas generator, comprising:
  - a substrate;
  - a first electrode deposited on said substrate for providing an electrical connection with a conducting medium;
  - a second electrode deposited on said substrate for generating a gas;
  - an electrolytic material in contact with said first electrode and said second electrode; and
  - a coating deposited on a surface of said electrolytic material ~~electrolyte~~ for regulating an amount of gas generated.
24. (original) The electrochemical gas generator according to claim 23, wherein said first and said second electrodes are interdigitated.
25. (original) The electrochemical gas generator according to claim 23, wherein said electrolytic material is in a solid state.

26. (original) The electrochemical gas generator according to claim 25, wherein said electrolytic material is Nafion.

27. (original) The electrochemical gas generator according to claim 25, further including a reservoir for containing a solution to wet said electrolytic material.

28. (original) The electrochemical gas generator according to claim 23, wherein said coating is a hydrophobic material.

29. (original) The electrochemical gas generator according to claim 23, wherein said coating is Teflon.

30. (original) The electrochemical gas generator according to claim 23, wherein said coating is porous.

31. (original) The electrochemical gas generator according to claim 25, wherein said electrolytic material is porous.

32. (original) The electrochemical gas generator according to claim 23, further including an inlet for introducing a vapor and an outlet for extracting a gaseous concentration.

33. - 40. (cancelled).